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Names of Actual Inventors: Gunter Hess and Heinz Scholten

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Invention Title:

Dish Rack for a Dishwasher

The following statement is a full description of this invention, including the best method of performing it known to me/us:-

Dish Rack for a Dishwasher

The invention relates to a dish rack for a dishwasher with a wire frame coated with plastic.

Known dishwashers on the market feature at least one dish rack for arranging the goods to be rinsed. These racks are customarily manufactured as frames made of steel wire. Due to the risk of corrosion from the chemicals used in dishwashers, they are coated with an anticorrosive made of organic polymers, in which case a plastic coating, for example, is used that is usually deposited by a coating process, such as described in DE-OS 2050905. The colour of the coating varies according to the design of the machine equipped with the rack. The colour is generated by adding commercial pigments to the plastic coating. Smooth surfaces are particularly preferred and are therefore generally customary, because the user assumes that no residual foreign matter will stick to these surfaces. When the washing has finished, only drops that do not vaporize easily will therefore remain on the contact points where the washed dishes rest on the rack. The dishes therefore remain wet. It is necessary to expend vaporization energy, which affects power consumption, to vaporize these drops and dry the dishes quickly.

It is the object of the present invention to substantially overcome or at least ameliorate one or more of the prior art disadvantages.

Summary of the Invention

The present invention provides dish rack for a dishwasher, the dish rack comprising a wire frame made from structural steel which is coated with plastic, the plastic coating having a surface roughness of $R_z \geq 5 \mu\text{m}$ but which feels substantially smooth such that the coating, in use, distributes adhering water over the surface thereof in a thin film.

The preferred embodiment provides a dish rack with a surface that draws the drops of water away from the contact points by distributing them uniformly as a film across the entire coated surface, and to consequently ensure that the water will vaporize quickly with little addition of heat (residual heat). The rack has a plastic coating that has an average surface roughness of $R_z \geq 5 \mu\text{m}$ and, which feels substantially smooth nevertheless. The peak-to-valley-height is typically measured in accordance with DIN 4768 using the Rodenstock RM 600 laser profilometer. The measurement is performed by scanning the surface with a laser beam. Mechanical detectors, such as the Perthometer M4P, display values that are too small.

The dish rack in accordance with the preferred embodiment creates, in a simple way and manner, a dish rack that substantially ensures that the water running off the



dishes, which collects as drops at the contact points between rack and dishes in conventional dish racks, will distribute itself over the rack's surface and consequently vaporize more easily.

Detailed Description of the Preferred Embodiments

5 The dish racks each consist of a wire frame coated with plastic. The wire frame of the dish rack is manufactured of conventional structural steel and coated with a coating that has an average roughness $R_z \geq 5 \mu\text{m}$ that substantially distributes water in the manner described and that essentially consists of plastic, basically polyamide 11 or polyamide 12, and is deposited by a plastic coating process. With the dish rack in accordance with the
10 invention, a dishwasher rack can be manufactured in a simple way and manner and without any extra cost that raises the overall appearance of a device and, by means of the described characteristic, ensures that the dishes will be dried without any noticeable energy expenditure.



The claims defining the invention are as follows:

1. A dish rack for a dishwasher, the dish rack comprising a wire frame made from structural steel which is coated with plastic, the plastic coating having a surface roughness of $R_z \geq 5 \mu\text{m}$ but which feels substantially smooth such that the coating, in use, distributes adhering water over the surface thereof in a thin film.
2. A dish rack in accordance with claim 1, wherein, in use, the coating spreads the water adhering at contact points between the dish rack and dishes on the rack, thereby letting the water vaporize more quickly.
3. A dish rack in accordance with claim 1, wherein the plastic coating essentially consists of polyamide.

Dated 28 May, 2001

Degussa-Huls Aktiengesellschaft

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